



IBM Global Services AMS migration factory

# SGU Briefing: Migration Factory 2005

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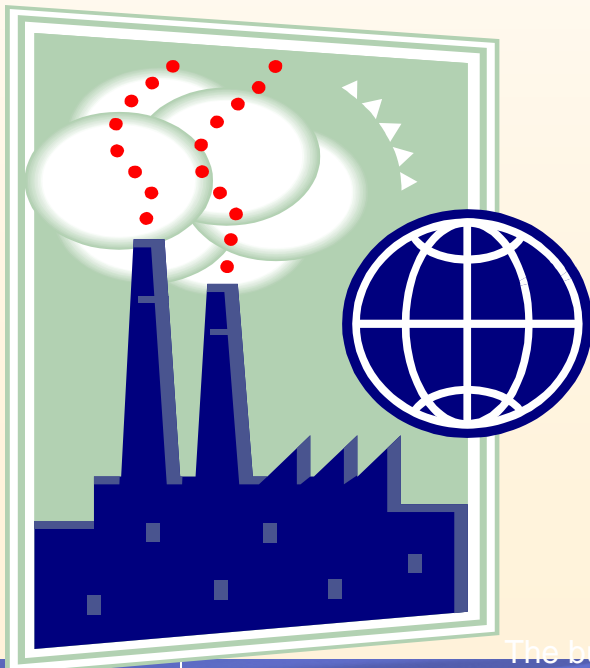
## Talking Points

- The Migration Factory >> 2004 activity
- The competitive landscape >> competitive win back opportunities
- Client concerns
- Migration >> the process, the risks and our experience
- The Migration Factory >> 2005 >> what's changed
- Summary >> What should you do next?

## Head to head competitive migration opportunities

### AMS Migration Factory HP/Sun pSeries Status

- During 2004 the Migration Factory has engaged in **269 HP and 211 Sun** competitive opportunities.
- Over **238 migration assessments** requested to move from HP and Sun to pSeries.
- pSeries Geographic leaders have reviewed **230 pre-funded migration** opportunities for migration from HP and Sun to IBM pSeries.
- We have potential issues for 2005 with financial treatments in Geos that need resolution
- We are looking to expand in 2005 with programs for GSIs participation and partners
- We need more than just pSeries participation and a migration office
- Migration Factory now also being linked to OIO



### pSeries Migration Factory HP/Sun Attack

| Opportunity Disposition | No. of HP Opptys | No. of Sun Opptys | 2004 Revenue |
|-------------------------|------------------|-------------------|--------------|
| Active                  | 149              | 142               | \$210 M      |
| Won                     | 70               | 47                | \$104 M      |
| Lost                    | 50               | 22                | \$38 M       |
| Total                   | 269              | 211               | \$352 M      |

The bulk of opportunities are resolved, won/lost after assessment. The

## Competitive landscape

- IBM's primary UNIX competitors, Sun and HP, are causing concern among their user base about their future technical roadmap and viability.
- Customer considerations
  - IBM's new Power technology offers superior price performance
  - Move to new competitive or IBM technology is dependent upon migration
  - IBM's migration capability is a key enabler
- IBM's technology provides the best price performance for customers positioning themselves for the future.
- IBM built a Migration Factory based on the acquisition of capabilities from Sector7 in September 2003. Sector7 had performed more than 1,000 application migrations, many to pSeries.

## Question



When would you **not** have to do a migration in a competitive sales environment?

## Answer



If the client elects to do nothing – and stay on the current platform.

We lose the sale.

## Answer



If you sell a new system to a client for a new application

Possible. Not likely.

## Answer



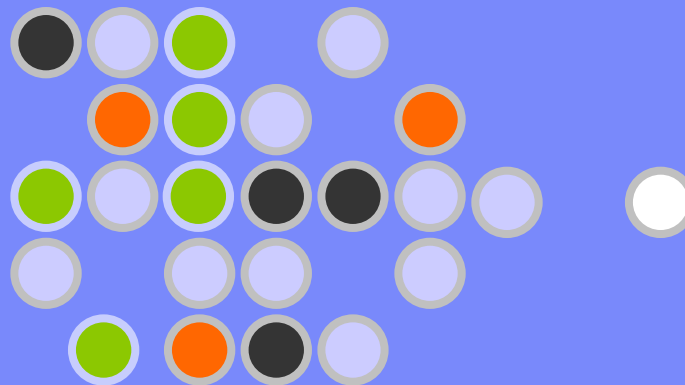
If the client scraps all current applications and databases, throws everything out and starts over from scratch.

Highly unlikely.

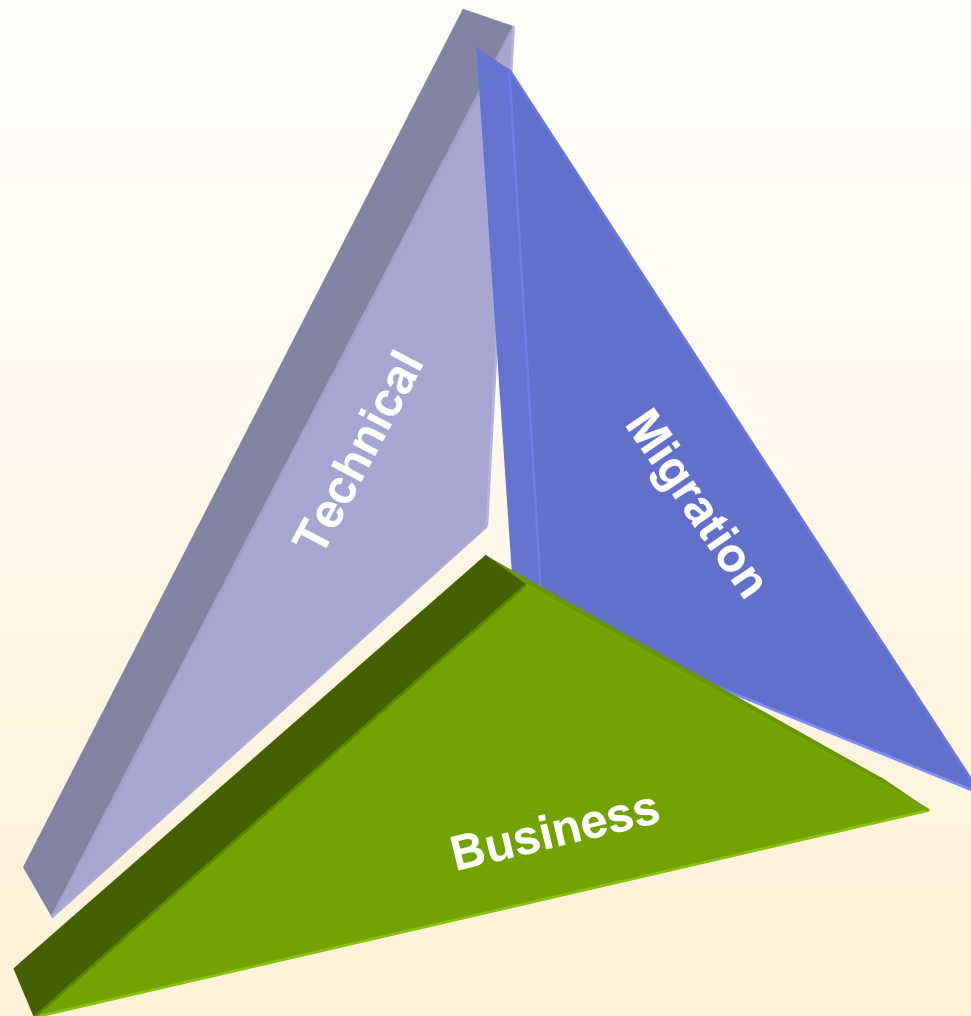


## Migration is key

- In any other situation, something will NEED to be migrated.
- Migration capability is a key to winning.
- It's 1/3 of your value proposition.



# Your Messages



## Your messages



Same messages apply when z and iSeries are under attack.

## Migration....Client concerns



### **Question?**

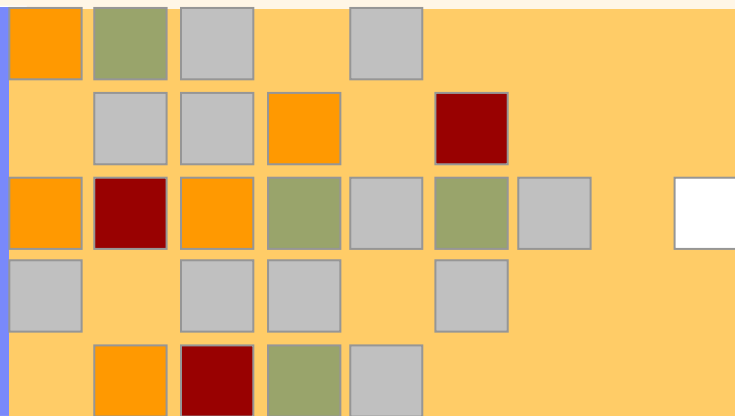
—*“What do you think about when confronted with a migration?”*

### **Answer**

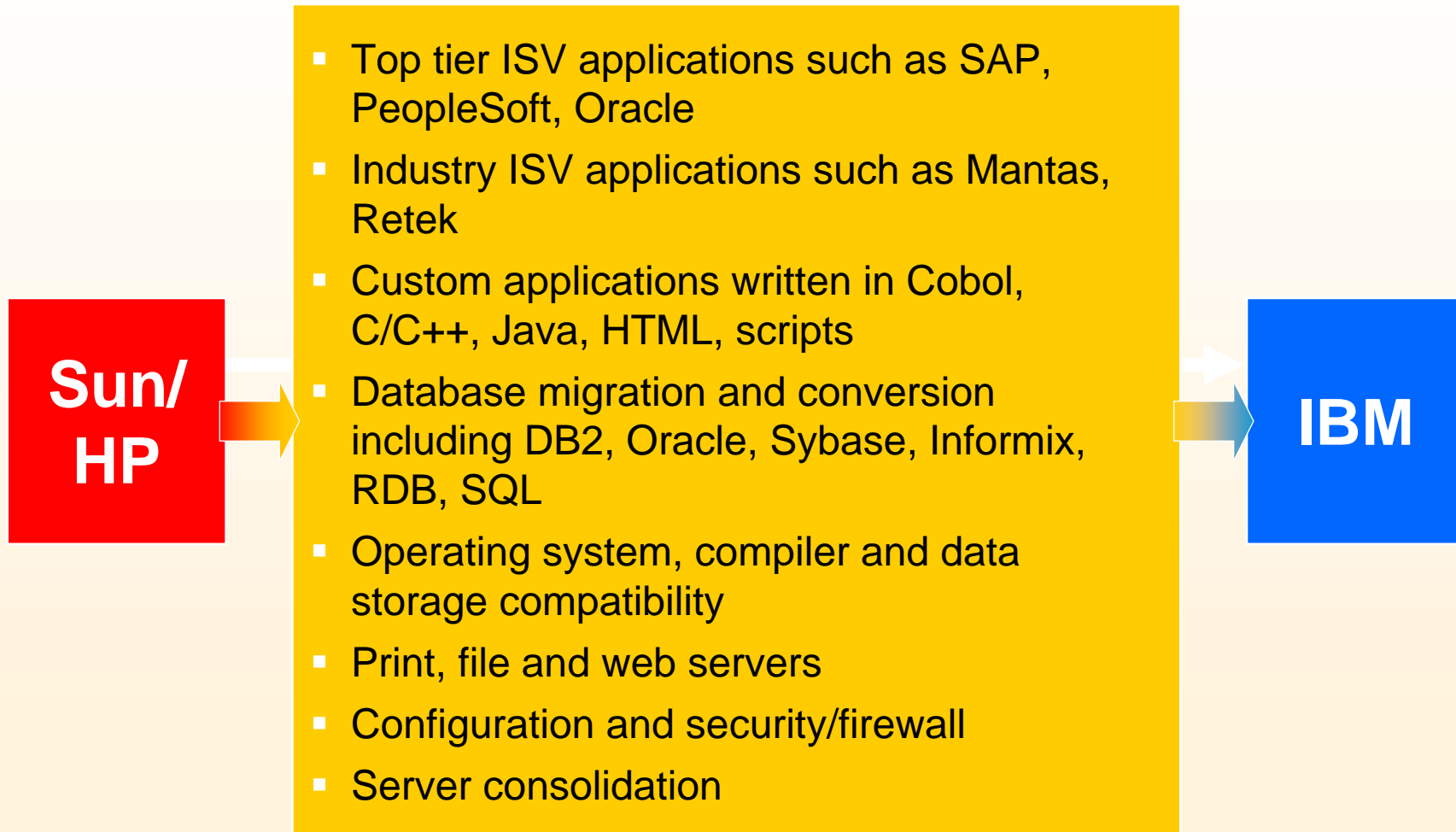
—*“I don’t think...I worry.”*

## Migration concerns and risk

- Technical...can it be done?
- Cost...can it be done within the budget?
- Schedule...can it be done on time?
- Operational...will it work?



## Major customer migration considerations




## The “Degree of Difficulty” Matrix...

|                        |      | xSeries Linux | pSeries Linux | pSeries AIX | iSeries Linux | iSeries PASE | iSeries OS/400 | zSeries z/OS | zSeries Linux |
|------------------------|------|---------------|---------------|-------------|---------------|--------------|----------------|--------------|---------------|
| Bull GCOS              | 5-8  | 5-8           | 5-8           | 5-8         | 7-9           | 7-10         | 7-10           | 5-8          |               |
| DG DG-UX               | 3-5  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| FreeBSD                | 2-3  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| HP HP-UX               | 3-5  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| HP MPE                 | 3-4  | 3-4           | 3-4           | 3-4         | 3-4           | 4-6          | 7-10           | 3-4          |               |
| HP MPE /iX             | 3-4  | 3-4           | 3-4           | 3-4         | 3-4           | 4-6          | 7-10           | 3-4          |               |
| HP NSK                 | 8-10 | 8-10          | 8-10          | 8-10        | 8-10          | 8-10         | 5-8            | 8-10         |               |
| HP OpenVMS (Alpha)     | 7-10 | 7-10          | 7-10          | 7-10        | 7-10          | 7-10         | 7-10           | 7-10         |               |
| HP OpenVMS (VAX)       | 7-10 | 7-10          | 7-10          | 7-10        | 7-10          | 7-10         | 7-10           | 7-10         |               |
| HP Tru64 UNIX (Alpha)  | 3-5  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| HP VMS (VAX)           | 7-10 | 7-10          | 7-10          | 7-10        | 7-10          | 7-10         | 7-10           | 7-10         |               |
| SCO UnixWare           | 2-3  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| SGI Irix               | 3-5  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| SNI Reliant UNIX/Sinix | 3-5  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-6          |               |
| Sun Solaris/Intel      | 3-4  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| Sun Solaris/SPARC      | 3-5  | 3-5           | 3-5           | 3-5         | 3-5           | 7-10         | 7-10           | 3-5          |               |
| Tandem                 |      |               | 8-10          |             |               |              | 8-10           |              |               |
| Windows 9x/ME          | 7-10 | 7-10          | 7-10          | 7-10        | 7-10          | 7-10         | 7-10           | 7-10         |               |
| Windows NT/2000        | 7-10 | 7-10          | 7-10          | 7-10        | 7-10          | 7-10         | 7-10           | 7-10         |               |
| Windows XP             | 7-10 | 7-10          | 7-10          | 7-10        | 7-10          | 7-10         | 7-10           | 7-10         |               |
| IA-32 Linux            | 1    | 3-4           | 3-4           | 3-4         | 3-4           | 6-8          | 7-9            | 3-4          |               |
| IA-64 Linux            | 2-4  | 3-4           | 3-4           | 3-4         | 3-4           | 6-8          | 7-9            | 3-4          |               |

- **Matrix is Subjective – based on history & experience**
- **Scale is 0 – 10 (Low to High Complexity)**
- **Assumption: Typical Business Logic Application**
- **Degree of Difficulty varies according to influences and complexity:**
  - Available development & conversion tools
  - Available 3<sup>rd</sup> Party Products
  - Use of standard programming practices
  - Etc.

## Migration 101



So...now that you know this...what is the first thing you should do when faced with a competitive take-out?



# Migration 101

Understand the types of migrations you will face:

- Infrastructure
- Databases
- ISV Packages
- Custom Code

# Migration 101

| Identify the Stacks  |                             |
|--|-----------------------------|
| Current Environment  | Target Environment          |
| Web Software   | Web Software                |
| High Availability/Clusters   | High Availability/Clusters  |
| Backup and Recovery  | Backup and Recovery         |
| Disk Subsystem   | Disk Subsystem              |
| Middleware and Messaging   | Middleware and Messaging    |
| All other ISV Products   | All other ISV Products      |
| Testing Capabilities   | Testing Capabilities        |
| Custom Applications  | Custom Applications         |
| <b>Primary ERP/CRM Application</b><br><input type="checkbox"/> PeopleSoft<br><input type="checkbox"/> SAP<br><input type="checkbox"/> Oracle<br><input type="checkbox"/> J.D. Edwards<br><input type="checkbox"/> Lawson<br><input type="checkbox"/> InSight<br><input type="checkbox"/> Other | Primary ERP/CRM Application |
| <b>Current Database</b><br><input type="checkbox"/> Oracle<br><input type="checkbox"/> Sybase<br><input type="checkbox"/> Informix<br><input type="checkbox"/> DB2<br><input type="checkbox"/> Other   | Target Database             |
| Current Operating System   | Target Operating System     |
| Current Hardware Platform  | Target Hardware Platform    |

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What you've got      What you want

- Get a picture of what you have now and...
- What you want to have when you are finished.

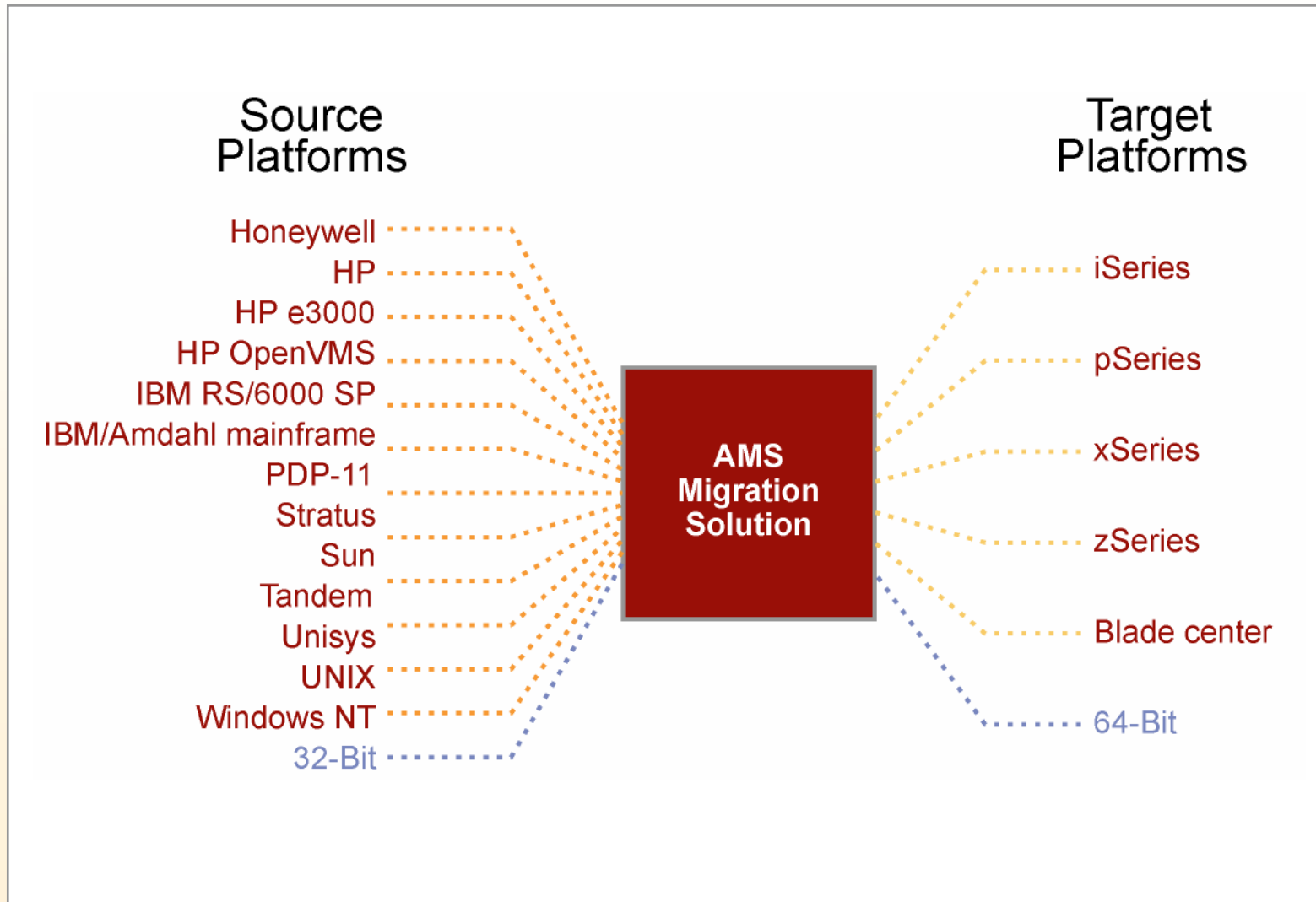
This is much more than just  
the pSeries box  
and AIX operating system

# Migration 101



- Other tools to gather the metrics we need to scope the cost/time to do a migration.
- This is NOT optional
- TOQ
- SAP/PS/Oracle apps
- Database

# Platform migration scenarios



# Migration process

## Prequalification

- Technical questionnaire
- Define the timeframe for a response
- Customer meeting with the migration factory

## Assessment

- Review the current effort
- Define the approach and plan
- Estimate schedule and cost

## Migration

- Baseline
- Migrate and test
- Acceptance test
- User acceptance testing
- Deploy

## Recent experience by industry

| PeopleSoft/JDE  | Oracle Apps/Financials                               | Database Migrations         |
|---|--|-----------------------------|
| Communications<br>Financial<br>Distribution<br>Public Sector<br>CSI | SMB<br>Public Sector<br>Industrial<br>Communications | SMB<br>Financial            |
| SAP   | Custom   | Infrastructure              |
| SMB<br>Industrial<br>Public Sector                                  | Communications<br>Financial<br>CSI                   | Financial<br>Communications |

## Recent experience..... by migration type

| PeopleSoft/JDE  | Oracle Apps/Financials  | Database Migrations   |
|---|---|---|
| Gruner+Jahr<br>Aliant<br>KeyBank<br>Santa Clara County<br>Dole<br>Giant Eagle<br>PeopleSoft | D&E Communications<br>Emerson<br>Del Monte<br>Moody Bible Institute<br>Dana Corporation<br>Ann Taylor<br>Cinram | Verispan<br>Dollar Thrifty<br>Automotive Group<br>IVAX<br>New York Life |
| SAP   | Custom  | Infrastructure  |
| Owens Corning<br>Carlisle SynTec<br>Philips Medical<br>City of Phoenix                      | Dow Jones<br>JPMorgan Chase<br>La Quinta<br>Deutsche Bank<br>BellSouth<br>WFS Financial                         | Barclays Bank<br>New York Life<br>BellSouth                             |

## IBM's Migration Factory goal

To help minimize the cost of the transition/migration services so they do not become the main objection to moving to an IBM solution.



### **The migration factory's core competencies**

- Provide and leverage many person-years of application migration experience
- Mitigate and reduce the risk in moving applications from one platform to another
- Reduce the cost of moving applications from one platform to another
- Support success through process, expertise and project management



## The Migration Factory 2005

What has changed....what has remained the same

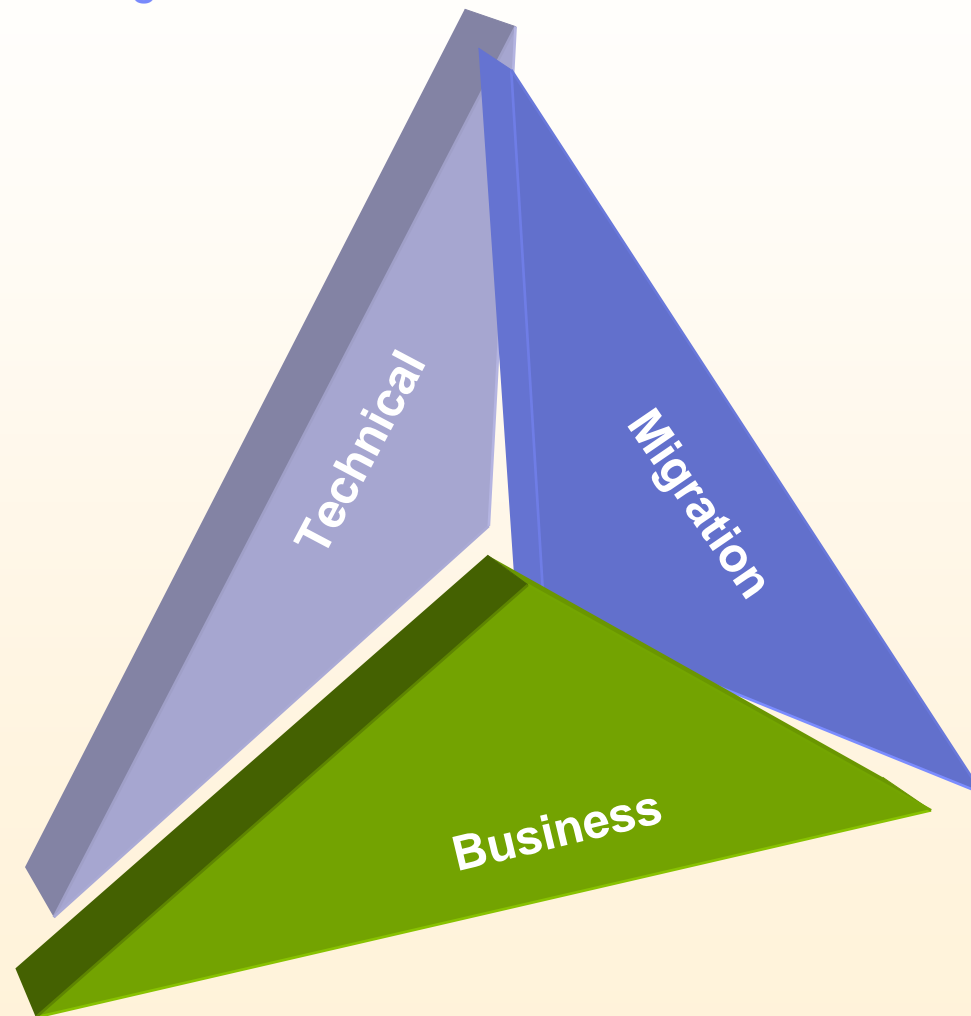
- Pre-Funded Assessments
- Pre-Funded Migrations
- Proof of Concepts
- Scope of migration offerings
- Resources available to help you win

## Summary.....What should you do Next?

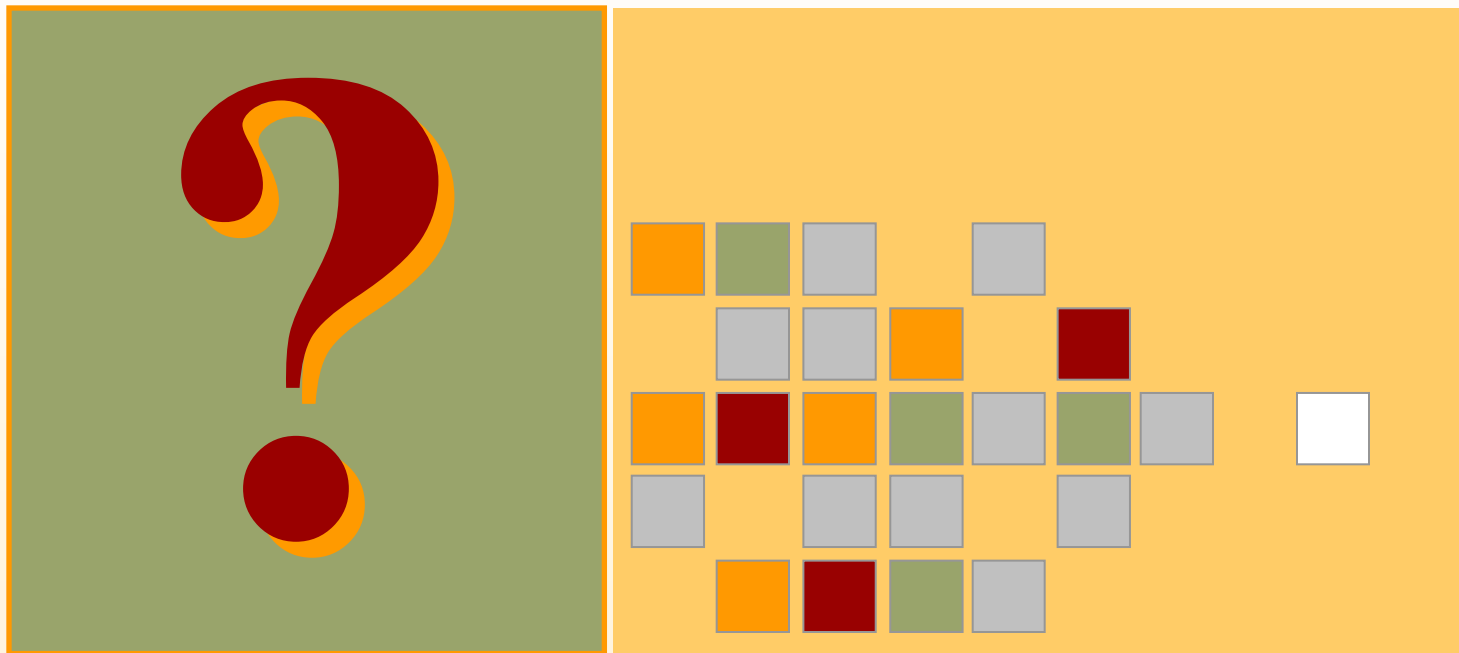
- **Contact the Migration Factory**
  - US/EMEA 1.866.Migr8te
  - Email: [migr8te@us.ibm.com](mailto:migr8te@us.ibm.com)
  
- **Initial Pre-Qualification with Migration Factory Assistance**
  - Technical Questionnaire provided by Migration Factory
  - Define Timeframe for a response
  - Customer meeting with Migration Factory personnel
  - Lyman Lundquist: [llundqui@us.ibm.com](mailto:llundqui@us.ibm.com)
  - Ann Ruehman: [aruehman@us.ibm.com](mailto:aruehman@us.ibm.com)
  
- **Assess, Size, Cost the effort**
  
- **Migrate, Test, Deploy, Accept**

- A proven, repeatable, definable process -

Remember your three messages....in competitive win backs migrations are not optional...they are a given



# Questions



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Revised May 6, 2004

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|            |   |                 |   |
|------------|---|-----------------|---|
| TPC        | <a href="http://www.tpc.org">http://www.tpc.org</a>           | Linpack         | <a href="http://www.netlib.no/netlib/benchmark/performance.ps">http://www.netlib.no/netlib/benchmark/performance.ps</a> |
| Pro/E      | <a href="http://www.proe.com">http://www.proe.com</a>         | SPEC            | <a href="http://www.spec.org">http://www.spec.org</a>   |
| GPC        | <a href="http://www.spec.org/gpc">http://www.spec.org/gpc</a> | NotesBench Mail | <a href="http://www.notesbench.org">http://www.notesbench.org</a>   |
| VolanoMark | <a href="http://www.volano.com">http://www.volano.com</a>     | STREAM          | <a href="http://www.cs.virginia.edu/stream/">http://www.cs.virginia.edu/stream/</a>                                     |

Unless otherwise indicated for a system, the performance benchmarks were conducted using AIX V4.3 or AIX 5L. IBM C Set++ for AIX and IBM XL FORTRAN for AIX with optimization were the compilers used in the benchmark tests. The preprocessors used in some benchmark tests include KAP 3.2 for FORTRAN and KAP/C 1.4.2 from Kuck & Associates and VAST-2 v4.01X8 from Pacific-Sierra Research. The preprocessors were purchased separately from these vendors. Other software packages like IBM ESSL for AIX and MASS for AIX were also used in some benchmarks.

The following SPEC and Linpack benchmarks reflect microprocessor, memory architecture, and compiler performance of the tested system (XX is either 95 or 2000):

- SPECintXX - SPEC component-level benchmark that measures integer performance. Result is the geometric mean of eight tests comprising the CINTXX benchmark suite. All of these are written in the C language. SPECint\_baseXX is the result of the same tests as CINTXX with a maximum of four compiler flags that must be used in all eight tests.
- SPECint\_rateXX - Geometric average of the eight SPEC rates from the SPEC integer tests (CINTXX). SPECint\_base\_rateXX is the result of the same tests as CINTXX with a maximum of four compiler flags that must be used in all eight tests.
- SPECfpXX - SPEC component-level benchmark that measures floating-point performance. Result is the geometric mean of ten tests, all written in FORTRAN, included in the CFPXX benchmark suite. SPECfp\_baseXX is the result of the same tests as CFPXX with a maximum of four compiler flags that must be used in all ten tests.
- SPECfp\_rateXX - Geometric average of the ten SPEC rates from SPEC floating-point tests (CFPXX). SPECfp\_base\_rateXX is the result of the same tests as CFPXX with a maximum of four compiler flags that must be used in all ten tests.
- SPECweb96 - Maximum number of Hypertext Transfer Protocol (HTTP) operations per second achieved on the SPECweb96 benchmark without significant degradation of response time. The Web server software is ZEUS v.1.1 from Zeus Technology Ltd.
- SPECweb99 - Number of conforming, simultaneous connections the Web server can support using a predefined workload. The SPECweb99 test harness emulates clients sending the HTTP requests in the workload over slow Internet connections to the Web server. The Web server software is Zeus from Zeus Technology Ltd.
- SPECweb99\_SSL - Number of conforming, simultaneous SSL encryption/decryption connections the Web server can support using a predefined workload. The Web server software is Zeus from Zeus Technology Ltd.
- SPEC OMP2001 - Measures performance based on OpenMP applications.
- SPECsfs97\_R1 - Measures speed and request-handling capabilities of NFS (network file server) computers.

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## Notes on Benchmarks and Values (Cont.)

-SPECjAppServer200X (where X is 1 or 2) - Measures the performance of Java Enterprise Application Servers using a subset of J2EE APIs in a complete end-to-end Web application.

The Linpack benchmark measures floating-point performance of a system.

- Linpack DP (Double Precision) - n=100 is the array size. The results are measured in megaflops (MFLOPS).
- Linpack SP (Single Precision) - n=100 is the array size. The results are measured in MFLOPS.
- Linpack TPP (Toward Peak Performance) - n=1,000 is the array size. The results are measured in MFLOPS.
- Linpack HPC (Highly Parallel Computing) - solves the largest system of linear equations possible. The results are measured in GFLOPS.

STREAM is a simple synthetic benchmark program that measures sustainable memory bandwidth (in MB/s) and the corresponding computation rate for simple vector kernels. Both standard and tuned results may be reported. <http://www.cc.virginia.edu/stream/>

VolanoMark is a 100% pure Java server benchmark that creates long-lasting network client connections in groups of 20 and measures how long it takes for the clients to take turns broadcasting their messages to the group. The benchmark reports a score as the average number of messages transferred by the server per second.

-The following Transaction Processing Performance Council (TPC) benchmarks reflect the performance of the microprocessor, memory subsystem, disk subsystem, and some portions of the network:

- tpmC - TPC Benchmark C throughput measured as the average number of transactions processed per minute during a valid TPC-C configuration run of at least twenty minutes.
- \$/tpmC - TPC Benchmark C price/performance ratio reflects the estimated five year total cost of ownership for system hardware, software, and maintenance and is determined by dividing such estimated total cost by the tpmC for the system.
- QppH is the power metric of TPC-H and is based on a geometric mean of the 17 TPC-H queries, the insert test, and the delete test. It measures the ability of the system to give a single user the best possible response time by harnessing all available resources. QppH is scaled based on database size from 30GB to 10TB.
- QthH is the throughput metric of TPC-H and is a classical throughput measurement characterizing the ability of the system to support a multiuser workload in a balanced way. A number of query users is chosen, each of which must execute the full set of 17 queries in a different order. In the background, there is an update stream running a series of insert/delete operations. QthH is scaled based on the database size from 30GB to 10TB.
- \$/QphH is the price/performance metric for the TPC-H benchmark where QphH is the geometric mean of QppH and QthH. The price is the five-year cost of ownership for the tested configuration and includes maintenance and software support.

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## Notes on Benchmarks and Values (Cont.)

The following graphics benchmarks reflect the performance of the microprocessor, memory subsystem, and graphics adapter:

- SPECxpc results - Xmark93 is the weighted geometric mean of 447 tests executed in the x11perf suite and is an indicator of 2D graphics performance in an X environment. Larger values indicate better performance.
- SPECplb results (graPHIGS) - PLBwire93 and PLBsurf93 are geometric means of literal and optimized Picture Level Benchmark (PLB) tests for 3D wireframe and 3D surface tests, respectively. Larger values indicate better performance.
- SPECopc results - Viewperf 7 (3dsmax-01, DRV-08, DX-07, Light-05, ProE-01, UGS-01) and Viewperf 6.1.2 (AWadv-04, DRV-07, DX-06, Light-04, medMCAD-01, ProCDRS-03) are weighted geometric means of individual viewset metrics. Larger values indicate better performance.

The following graphics benchmarks reflect the performance of the microprocessor, memory subsystem, graphics adapter and disk subsystem.

- SPECapc Pro/Engineer 2000i2 results - PROE2000I2\_2000370 was developed by the SPECapc committee to measure UNIX and Windows workstations in a comparable real-world environment. Larger numbers indicate better performance.

The NotesBench Mail workload simulates users reading and sending mail. A simulated user will execute a prescribed set of functions 4 times per hour and will generate mail traffic about every 90 minutes. Performance metrics are:

- NotesMark - transactions/minute (TPM).
- NotesBench users - number of client (user) sessions being simulated by the NotesBench workload.
- \$/NotesMark - ratio of total system cost divided by the NotesMark (TPM) achieved on the Mail workload.
- \$/User - ratio of total system cost divided by the number of client sessions successfully simulated for the NotesBench Mail workload measured. Total system cost is the price of the server under test to the client, including hardware, operating system, and Domino Server licenses.

### Application Benchmarks

- SAP - Benchmark overview information: <http://www.sap-ag.de/solutions/technology/bench.htm>; Benchmark White Paper September, 2000; <http://www.sap-ag.de/solutions/technology/pdf/50020428.pdf>.
- PeopleSoft - To get information on PeopleSoft benchmarks, contact PeopleSoft directly or the PeopleSoft/IBM International Competency Center in San Mateo, CA.
- Oracle Applications - Benchmark overview information: [http://www.oracle.com/apps\\_benchmark/](http://www.oracle.com/apps_benchmark/)
- Baan - The Baan benchmark demonstrates the scalability of Baan ERP solutions. The test results provide the number of Baan Reference Users (BRUs) that can be supported on a specific system. BRU is a single on-line user or a batch unit workload. These metrics are consistent with those used internally by both IBM and Baan to size systems. To get more information on Baan benchmarks, go to <http://www.ssaglobal.com>.
- J.D. Edwards Applications - Product overview information at <http://www.jdedwards.com>.

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